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Z245.15-17

Steel valves

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Standards Update Service

Z245.15-17

September 2017

Title: *Steel valves*

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The **List ID** that you will need to register for updates to this publication is **24253-17**

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Z245.15-17

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Published in September 2017 by CSA Group
A not-for-profit private sector organization
178 Rexdale Boulevard, Toronto, Ontario, Canada M9W 1R3

To purchase standards and related publications, visit our Online Store at shop.csa.ca
or call toll-free 1-800-463-6727 or 416-747-4044.

ISBN 978-1-4883-0843-7

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In addition to the members of the Subcommittee on Materials, **Jan Andersson** made a valuable contribution to the development of this Standard.

Preface

This is the ninth edition of CSA Z245.15, *Steel valves*. It supersedes the previous editions published in 2013, 2009, 2005, 2001, 1996, 1991, 1987, and 1981.

This Standard covers the requirements for steel valves intended to be used for transporting fluids as specified in CAN/CSA-Z662.

Some of the main changes to this edition include the following:

- a) revised optional product ordering requirements (Clause 4.1.2);
- b) revised drain and bypass connections, and sealant fittings requirements (Clauses 5.7 and 5.8);
- c) revised seat tests requirements (Clause 9.4);
- d) revised sour service requirements (Clause 13);
- e) revised Table 5 Ring and groove dimension C for PN 420 full-bore, NPS 2-1/2 valves;
- f) revised Table 8; and
- g) revised furnace calibration and survey requirements (Annex C).

In this 2017 edition, where a major change or addition to the previous edition of this Standard has been made, the clause, table, or figure affected is identified by the symbol ® in the margin. Users of this Standard are advised that the change markers in the text are not intended to be all-inclusive and are provided as a convenience only; such markers cannot constitute a comprehensive guide to the revisions made to this Standard. Care must therefore be taken not to rely on the change markers to determine the current requirements of this Standard. As always, users of this Standard must consider the entire Standard.

This Standard was prepared by the Subcommittee on Materials, under the jurisdiction of the Technical Committee on Petroleum and Natural Gas Industry Pipeline Systems and Materials and the Strategic Steering Committee on Petroleum and Natural Gas Industry Systems, and has been formally approved by the Technical Committee.

Notes:

- 1) *Use of the singular does not exclude the plural (and vice versa) when the sense allows.*
- 2) *Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.*
- 3) *This Standard was developed by consensus, which is defined by CSA Policy governing standardization — Code of good practice for standardization as “substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity”. It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this Standard.*
- 4) *To submit a request for interpretation of this Standard, please send the following information to inquiries@csagroup.org and include “Request for interpretation” in the subject line:*
 - a) *define the problem, making reference to the specific clause, and, where appropriate, include an illustrative sketch;*
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- c) *wording of the proposed change; and*
- d) *rationale for the change.*

Z245.15-17

Steel valves

1 Scope

1.1 General

This Standard covers steel valves primarily intended for use in oil or gas pipeline systems. The following types of valves are covered:

- a) gate valves;
- b) plug valves;
- c) ball valves; and
- d) check valves.

1.2 Size, nominal pressure class, and category

1.2.1 Size

This Standard covers valves in sizes from NPS 2 to NPS 60. (See Table [A.1](#).)

1.2.2 Nominal pressure class

This Standard covers valves having cold working-pressure ratings designated by nominal pressure classes from PN 20 to PN 420. The standard nominal pressure classes are shown in Table [1](#). (ASME class designations are shown in Table [B.1](#).)

1.2.3 Category

This Standard covers valves in the following categories:

- a) Category I: valves without requirements for proven notch-toughness properties; and
- b) Category II: valves with requirements for proven notch-toughness properties.

1.3 End configuration

This Standard covers standard end requirements for flanged, buttwelding, and wafer-type valves. Other end configurations are considered non-standard and are subject to agreement between the purchaser and the manufacturer.

1.4 Terminology

In this Standard, “shall” is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the standard; “should” is used to express a recommendation or that which is advised but not required; and “may” is used to express an option or that which is permissible within the limits of the Standard.

Notes accompanying clauses do not include requirements or alternative requirements; the purpose of a note accompanying a clause is to separate from the text explanatory or informative material.

Notes to tables and figures are considered part of the table or figure and may be written as requirements.

Annexes are designated normative (mandatory) or informative (non-mandatory) to define their application.

Ⓢ **2 Reference publications**

This Standard refers to the following publications, and where such reference is made, it shall be to the edition listed below, unless the user finds it more appropriate to use newer or amended editions of such publications.

CSA Group

G40.20-13/G40.21-13

General requirements for rolled or welded structural quality steel/Structural quality steel

Z245.1-14

Steel pipe

Z245.11-17

Steel fittings

Z245.12-17

Steel flanges

CAN/CSA-Z662-15

Oil and gas pipeline systems

API (American Petroleum Institute)

5B-2008 (R2015) (SPEC)

Specification for Threading, Gauging, and Thread Inspection of Casing, Tubing, and Line Pipe Threads

5L-2013 (SPEC)

Specification for Line Pipe

Q1-2014 (SPEC)

Specification for Quality Management System Requirements for Manufacturing Organizations for the Petroleum and Natural Gas Industry

ASME (The American Society of Mechanical Engineers)

Boiler and Pressure Vessel Code

Section VIII — Pressure Vessels, Division 1, 2015

Section IX — Welding and Brazing Qualifications, 2015

B1.20.1-2013

Pipe Threads, General Purpose, Inch

B1.20.3-1976 (R2013)

Dryseal Pipe Threads, Inch

B1.20.5-1991 (R2014)

Gaging for Dryseal Pipe Threads — Inch